

APPROVAL

client

CUSTOMER:

品 名 规 格

SMA-2.4G&5G Black antenna

DESCRIPTION:

料 号

PART NO.:

客 户 料 号

CUS PART NO.:

日 期

2018-3-30

D A T E:

Sample seal:

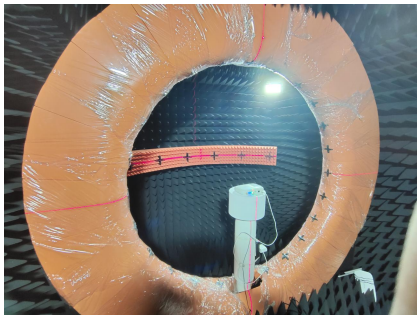
工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT

客户承认签章

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

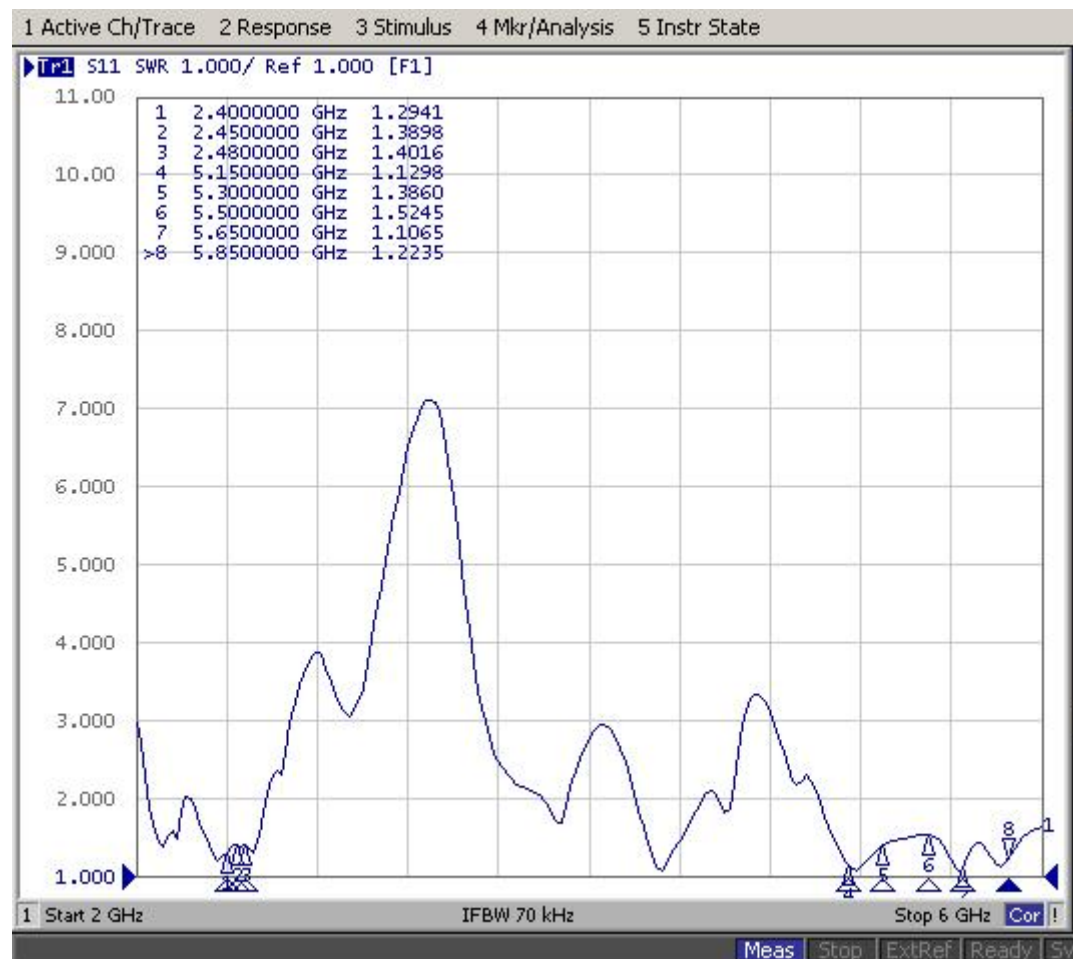
1.Test items and equipment

	Test project	Equipment
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪: Agilent E5071B HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 综合测试仪: Agilent 8960 E5515B ×2 StarPoint SP6011 Cmw500
3.无源测试 (Passive)	1.天线增益 (Gain) 2.天线效率 (Efficiency)	1. 暗室: ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪: Agilent E5071B HP 8753D



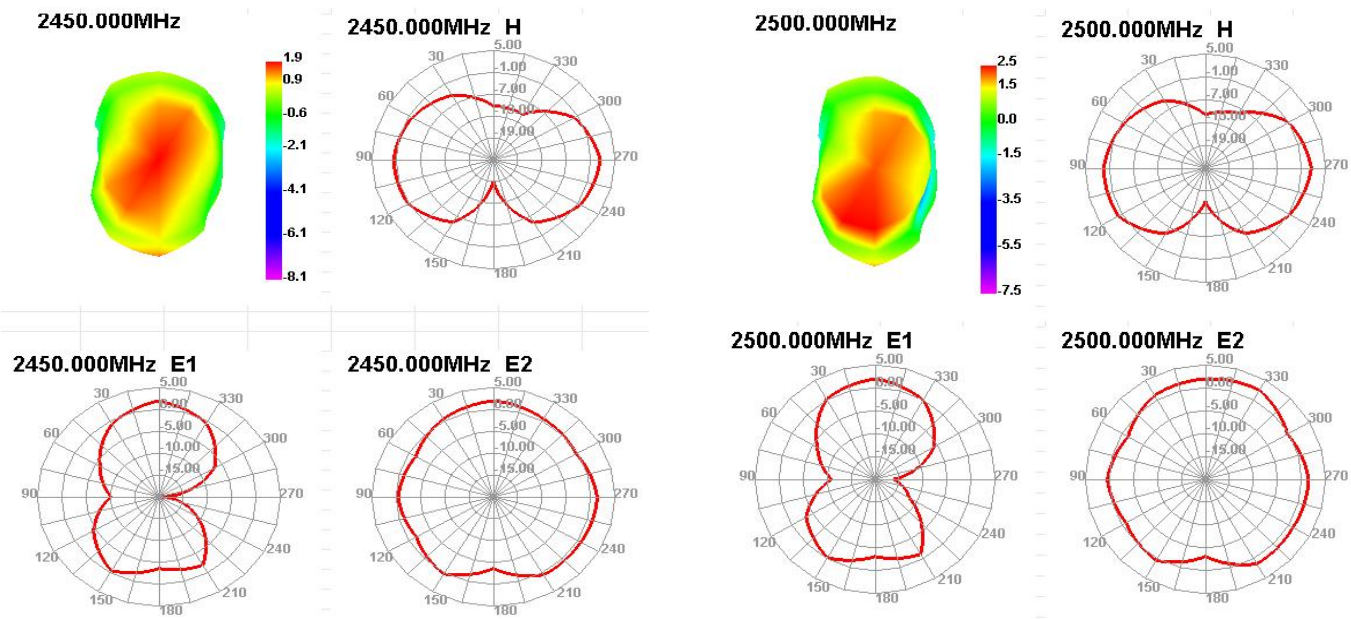
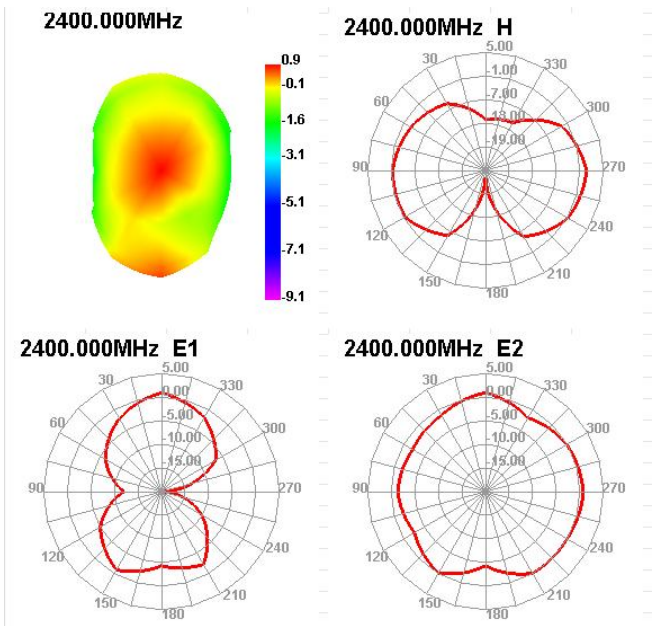
2. Antenna performance

SWR



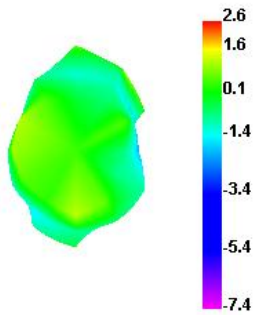
3. Antenna efficiency and gain

Passive Test For WIFI2.4		
Freq (MHz)	Effi (%)	Gain (dBi)
2400	73.96	4.35
2410	77.45	4.84
2420	79.07	4.65
2430	79.8	5.01
2440	80.91	4.52
2450	82.04	5.11
2460	82.22	5.03
2470	80.91	5.3
2480	78.89	5.14
2490	76.56	5.07
2500	74.47	4.85

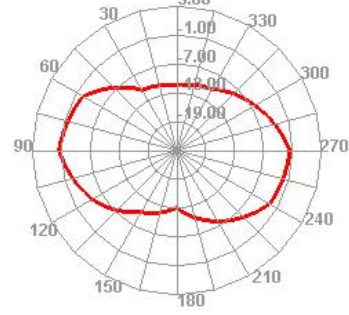


Passive Test For WIFI5.8		
Freq (MHz)	Effi (%)	Gain (dBi)
5150	55.49	2.56
5200	52.58	2.08
5250	50.52	1.53
5300	53.88	2.34
5350	59.16	3.2
5400	65.7	3.46
5450	57.36	2.96
5500	55.25	2.87
5550	51.22	2.4
5600	44.64	1.57
5650	44.98	1.34
5700	49.18	2.02
5750	60.24	3.43
5800	61.27	3.38
5850	53.19	2.78

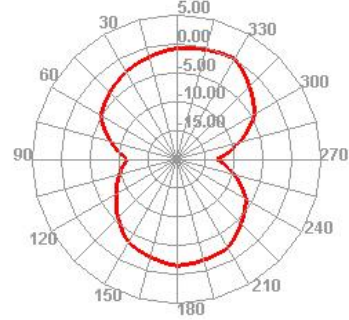
5150.000MHz



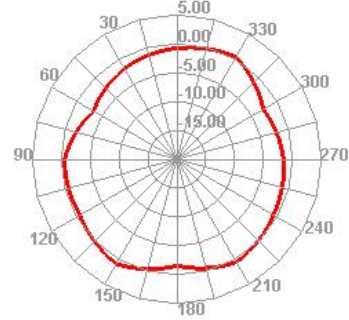
5150.000MHz H



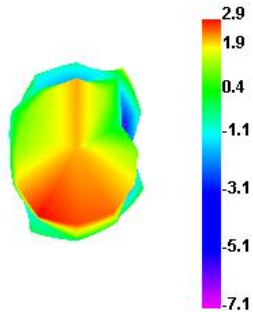
5150.000MHz E1



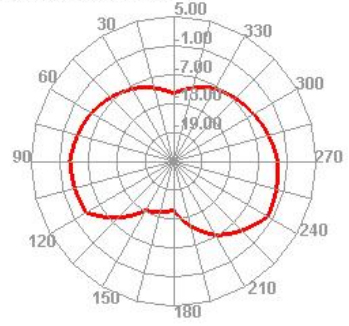
5150.000MHz E2



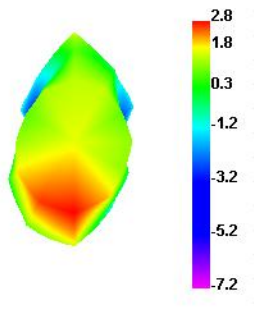
5500.000MHz



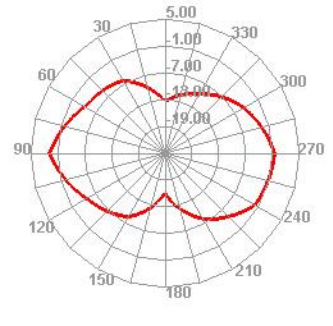
5500.000MHz H



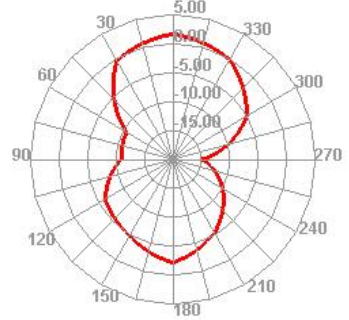
5850.000MHz



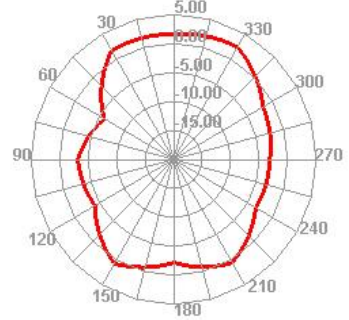
5850.000MHz H



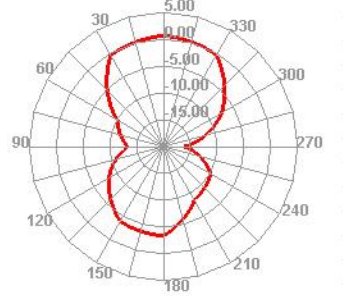
5500.000MHz E1



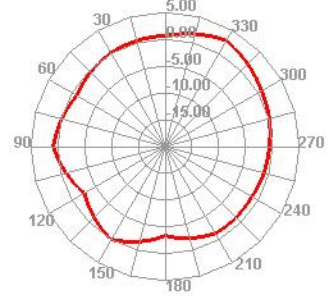
5500.000MHz E2

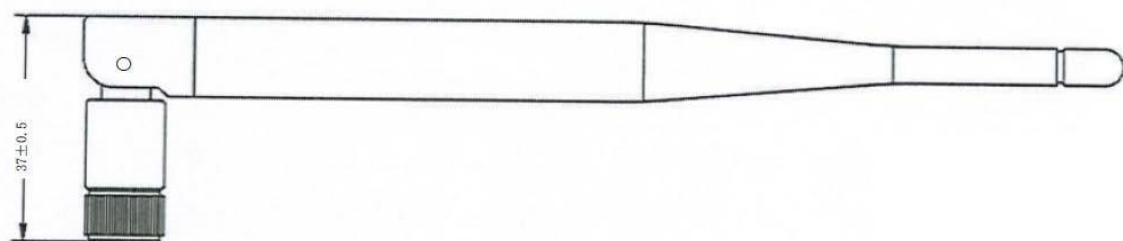
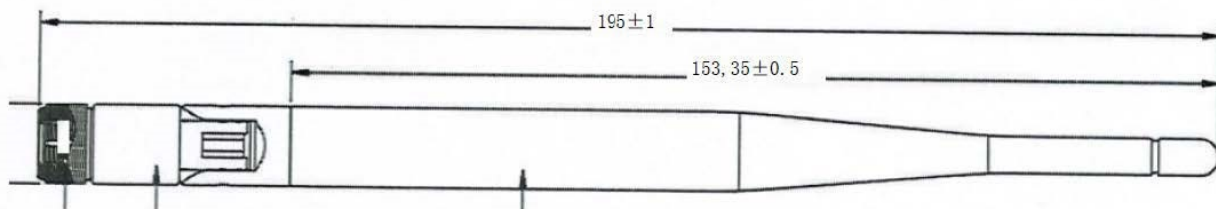


5850.000MHz E1



5850.000MHz E2





电器技术参数			
电 性 能 指 标		Electrical Specifications	
频率范围	2400~2500/5150~5850MHz	Frequency Range	2400~2500/5150~5850MHz
电压驻波比	≤2.0	VSWR	≤2.0
输入阻抗	50 Ω	Input Impedance	50 Ω
增益	3.5 DBI	Gain	3.5DBI
机 械 指 标		Mechanical Specifications	
天线颜色	黑色	Antenna Color	Black
接口形式		Input connector	
天线线长	108mm	Cable length	108mm
工作温度	-40℃~+85℃	Working Temperature	-40℃~+85℃
工作湿度	20~80%	Working Humidity	20~80%

环境性能测试（Environment performance test）：

项目	测试条件	测试结果
储存环境	在没有指定的情况下测试温度、湿度、气压如下： 1. 温度为-30℃~+80℃ 2. 相对湿度为45%-85% 3. 气压为86kpa-106kpa	电气机械性能正常
高低温试验	在70℃与-40℃之间进行5次循环，然后在正常条件下1-2H，检查外观质量。	尺寸应满足规定并应满足于机械、电气性能
耐恒定湿热试验	相对湿度95±3%，试验温度：40℃.持续2H作用后，试品取出后5min之内测定电气性能，试品在正常条件下1-2H，检查外观质量	尺寸应满足规定并应满足于机械、电气性能
振动试验	振频范围10-55HZ，位移幅值：0.35MM，加速度幅值：50.0M/S，扫频循环次数：30次	电气机械性能正常
跌落试验	1M高空按照互相垂直的轴方向自由跌落3次	电气机械性能正常

Project	Test condition	Test results
Storage environment	Test temperature, humidity, pressure without stated condition as follwings:1.Temperature: -30℃ ~ +80℃ ;2.Relative humidity: 45%-85%;3,Pressure: 86kpa-106kpa	Electrical and mechanical performance normal
High and low temperature test	Having 5 times cycle between -40℃ to 70℃,Then in common condition 1-2 hours test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Resistance constant hot and humid test	Relative humidity:95±3%,Test temperature: 40℃,last 2 hours ,put it after 5 min test the electrical function .Test products during common condition 1-2 hours ,Then test exterior quality.	Measurement satisfied with electrical and mechanical performance normal.
Vibration test	Vibrate Frequency:10-55HZ; Distance :0.35mm;Acceleration :50.0m/s;Sweep frequency cycle:30 times	Electrical and mechanical performance normal
Fall test	From 1m height fall down 3 times freely (vertical direction)	Electrical and mechanical performance normal